or caspofungin acetate (CAS). Endpoints were survival, colony forming units (CFUs), and histology of lungs.
Results: Initially, we compared the efficacy of a single dose of LAmB at 15 mg/kg to a dual treatment dose of 7.5 mg/kg given every other day. The single 15 mg/kg dose and the second of the dual 7.5 mg/kg doses were administered 24, 48 or 72 hours prior to infection. Only administration of dual 7.5 mg/kg doses of LAmB at 24 or 48 h prior to infection resulted in equivalent, significant protection as compared to placebo (100% vs 50%, $p < 0.05$). This data indicated that the total amount of LAmB administered over time was more important than the individual amount of each dose. Next, we compared dual doses of LAmB at 7.5 mg/kg with ABLC at 7.5 mg/kg, AmB at 1 mg/kg, and CAS at 1 mg/kg given on days −4 and −2 prior to infection. Additionally, CAS was also administered as a single dose 6 hours prior to infection. Only LAmB and the single dose arm of CAS significantly improved survival compared to placebo (75% and 88% vs 25% survival of placebo, $p < 0.04$). Lung CFUs was significantly reduced by prophylactic administration of LAmB ($p = 0.005$), AmB ($p = 0.03$), or CAS (given 6 h prior to infection, $p = 0.0002$) but not ABLC. These results were mirrored in histopathological evaluation since lungs from mice receiving placebo and ABLC revealed large amounts of elongated hyphae with moderate necrotizing pneumonia, whereas lungs of mice treated with LAmB, AmB, or CAS did not.
Conclusions: These data indicate that LAmB administered daily or every other day is a promising candidate for prophylaxis against pulmonary *aspergillosis* in neutropenic hosts. CAS also mediates prophylactic effect, but must be dosed more often than LAmB for efficacy.

75
Mouse Models for the Evaluation of Antiviral and Immunotherapy in the Treatment of Systemic Adenovirus Infections

L. Lenaerts*, E. De Clercq, E. Verbeken, L. Naesens. *Rega Institute for Medical Research, Katholieke Universiteit Leuven, B-3000 Leuven, Belgium*

Background: Severe adenovirus infections are of increasing concern in AIDS patients and transplant recipients under immunosuppressive therapy. Unfortunately, current therapeutic modalities for adenovirus infections are limited.
Objectives: We investigated the contribution of the host's adaptive immune response and the efficacy of immunotherapy in the control of systemic adenovirus infections using two mouse models.
Methods & Results: Severe combined immune deficient (SCID) mice, intranasally inoculated with mouse adenovirus type 1 (MAV-1), develop a fatal disseminated disease characterized by hemorrhagic enteritis (Lenaerts et al., 2005, Antimicrob Agents Chemother 49, 4689–99). When SCID mice were treated with antisera containing MAV-1 specific IgG, MAV-1-induced death was significantly delayed from day 18 p.i. (untreated mice) to day 42–60 p.i. (antiserum-treated mice). The extent of the delay was dependent on the titer of MAV-1 neutralizing antibodies in the antiserum. The MAV-1 antisera were obtained from immunocompetent mice challenged with MAV-1 and were transferred to the MAV-1-infected SCID mice at day −1 and day 9 post infection. Ultimately, MAV-1-infected SCID mice treated with the MAV-1-antisera showed 100% mortality, with identical pathology and similar virus titers in the target organs as seen in untreated, infected SCID mice. These results indicate that antibodies play a major role in protection and elimination of systemic adenovirus infection. In an alternative mouse model for adenovirus infection, cyclophosphamide (CY) was administered to adult BALB/c mice to induce a general and reversible immunosuppression. MAV-1-related mortality correlated with the duration of immunosuppressive therapy. Mice receiving CY for 3 or more weeks succumbed to an identical pathology and similar virus titers in the affected tissues as seen with MAV-1-infected SCID mice. On the contrary, mice in which immunosuppressive therapy was ceased 1 week post infection did not develop symptoms and survived. These mice showed high serum titers ($\geqslant$1:160) of MAV-1 neutralizing antibodies. Studies are ongoing to evaluate the efficacy of antivirals (such as cidofovir) in this MAV-1/CY model.
Conclusions: These two new mouse models will increase our understanding of the suppression of adenovirus disease by antiviral and/or immunotherapy and will be helpful in the development of an adequate treatment for systemic adenovirus infections in immunocompromised patients.

76
Strategy of Vaccination Against HBV-infection in Hemodialysis Patients with 'Isolated' HBcAb

M. Zubkin*, E. Balakirev, V. Chervinko, F. Baranova, V. Taranov, I. Bakulin, A. Stanke, V. Novozhenov. *State Postgraduate Medical Institute of Defence Ministry, Nephrological Center, Moscow, Russian Federation*

Background: Advisability of vaccination against the HBV infection in patients with 'isolated' HBcAb

remains debatable. As many as 300 (or 33.4%) out of 897 haemodialysis (HD) patients of our center were positive for HBV-antibodies. 'Isolated' anti-HBc (HBsAg, HBsAb were not found) were detected in 194 patients (64.7%), while HBsAb was found only in 31 patients (10.3%), and HBsAb together with HBcAb were found in 75 patients (25%).

Methods: Twenty seven HD patients (age 44.3±2.6; 15 males, 12 females) with 'isolated' HBcAb were randomly assigned for study a new approaches of immunization against HBV infection. Schedule of vaccination of A.McIntyre et al. (1992) was adapted for HD patients. All patients were immunized by 40 mcg of HBV vaccine 'Combiotech' (Russia). Blood samples were obtained for quantitative determination of HBsAb in 1 month after the first vaccination. If the HBsAb titers were higher than 50 mIU/ml, the immunization was terminated. In this case 'isolated' HBcAb could be considered as a sign of past HBV infection. In patients with lower level of HBsAb vaccination was continued using a 'standard' schedule for HD patients (1–2–6 months).

Results: The HBsAb titers a month after the end of immunization are shown in Table 1.

Table 1. Results of vaccination of patients with 'isolated' HBcAb and with HBsAb <50 mIU/ml one month after the first vaccine injection.

HBsAb (mIU/ml)	HBsAb (mIU/ml) at end of vaccination 1 mo after first injection				
	<10	10–99	100–499	<500	Total
<10	1	3	2	–	6
10–50	–	3	3	2	8
Total	1	6	5	2	14

Conclusion: Nearly half of the patients with the 'isolated' HBcAb responded by a protective titer only after complete course of immunization. Possibly the detection of this marker had pseudo-positive character. Thus, the suggested vaccination scheme allows one to increase its efficiency in HD patients with 'isolated' HBcAb.

77
Late Results of Hepatitis B Vaccination in Hemodialysis Patients

M. Zubkin*, E. Balakirev, V. Chervinko, F. Baranova, V. Taranov, I. Bakulin, A. Stanke, V. Novozhenov. *State Postgraduate Medical Institute of Defence Ministry, Nephrological Center, Moscow, Russian Federation*

Background & Methods: Vaccination efficacy against the HBV infection was studied in 175 haemodialysis (HD) patients (96 males, 79 females, 49±0.8 years old) who had no signs of HBV infection (no HBsAg, HBsAb and HBcAb). The duration of the HD therapy prior to immunization was 10.2±0.7 months. Chronic renal failure mainly resulted from chronic glomerulonephritis in 33.1% of patients, diabetic nephropathy (19.4%) and chronic pyelonephritis (16.6%). Patients were immunized with "Engerix B" (GlaxoSmithKline) or "Combiotech" (Russia) by injecting 40 mcg of vaccine at 0th, 1st, 2nd and 6th month.

Results: The results were monitored for 36 months after the end of vaccination. In one month the HBsAb titers of 10 mIU/ml or higher were found in 147 patients (84%). The dynamics of the level of the HBsAb titers during the next 36 months is shown in Table 1. The number of patients with the HBsAb titres less than 10 mIU/ml divided by the number of patients having certain HBsAb level at the end of immunization is presented.

Table 1. Number of patients with HBsAb < 10 mIU/ml at different stages of follow-up at different levels of post-immunization titres

HBsAb (mIU/ml)	18 mo (n = 97)		24 mo (n = 78)		30 mo (n = =69)		36 mo (n = 40)	
	n	%	n	%	n	%	n	%
10–99	10/18	56	13/15	87	13/15	87	13/13	100
100–499	4/25	16	5/16	31	6/13	46	8/9	89
500	0/54	0	1/47	2	3/41	7	7/18	39

Conclusion: The rate of decreasing of protective antibody titers in HD patients depended on response intensity at the end of vaccination. It may be the rationale for revaccination in HD patients.

78
A Case of EBV Related PTLD (Post Transplant Lymphproliferative Disorder) Treated Successfully with Ganciclovir in a Patient with Crohn's Disease, and Review of the Literature of PTLD in Patients with Inflammatory Bowel Disease

S. Haider*, R. Persad, U. Athale. *McMaster University Medical Center, Hamilton, Ontario, Canada*

Background: EBV related PTLD has been recognized as a serious complication of immunosuppression in patients undergoing bone marrow transplants, and solid organ transplants. The presence of EBV related PTLD outside of the transplant world, has been reported less frequently. We report a case of biopsy confirmed polyclonal EBV PTLD in a patient with Crohns disease, and successful treatment with ganciclovir.

Case: A 17 yr female with a known history of Crohns disease presented in August with symptoms